

CLAIMS

1. A liquid crystal display device comprising:
a thin film transistor including a gate electrode formed
5 by a droplet discharge method;
a columnar conductive film formed by a droplet discharge
method over a drain electrode of the thin film transistor; and
a pixel electrode connected to the columnar conductive
film.
10
2. The liquid crystal display device according to Claim 1,
wherein the gate electrode is formed over an area which
is pretreated.
- 15 3. The liquid crystal display device according to Claim 2,
wherein the area which is pretreated is formed using
photocatalyst.
4. The liquid crystal display device according to Claim 1,
20 wherein at least one of the gate electrode, the drain
electrode, and the columnar conductive film contains one
selected from the group consisting of gold, silver, copper,
platinum, palladium, tungsten, nickel, tantalum, bismuth, lead,
indium, tin, zinc, titanium, and aluminum.
25
5. The liquid crystal display device according to Claim 1,
wherein the thin film transistor includes an amorphous
semiconductor or a semiamorphous semiconductor.
- 30 6. A television receiver, wherein the liquid crystal display

device according to Claim 1 is included in a display screen of the television receiver.

7. A method for manufacturing a liquid crystal display device,
5 comprising the steps of:

- forming a gate electrode by a droplet discharge method;
- forming a first insulating film over the gate electrode;
- forming a semiconductor film over the first insulating film;
- 10 forming a mask over the semiconductor film;
- patterning the semiconductor film using the mask to form a patterned semiconductor film;
- forming a thin film transistor using the patterned semiconductor film by forming source and drain electrodes by
- 15 a droplet discharge method;
- forming a columnar conductive film over one of the source and drain electrodes;
- forming a second insulating film covering the columnar conductive film and the thin film transistor; and
- 20 forming a pixel electrode connecting the columnar conductive film over the second insulating film.

8. A method for manufacturing a liquid crystal display device, comprising the steps of:

- 25 forming a gate electrode by a droplet discharge method;
- forming a first insulating film over the gate electrode;
- forming a semiconductor film over the first insulating film;
- forming a mask over the semiconductor film;
- 30 patterning the semiconductor film using the mask to form

a patterned semiconductor film;

forming a thin film transistor using the patterned semiconductor film by forming source and drain electrodes by a droplet discharge method;

5 forming a columnar organic film over one of the source and the drain electrodes;

forming a second insulating film covering the columnar organic film and the thin film transistor;

removing the columnar organic film; and

10 forming a pixel electrode connecting the source or drain electrode over the second insulating film.

9. The method for manufacturing the liquid crystal display device according to Claim 7 or 8, wherein the method further
15 comprises a step of pretreating an area to where the gate electrode is formed.

10. The method for manufacturing the liquid crystal display device according to Claim 9, wherein the step of pretreating
20 uses photocatalyst.

11. The method for manufacturing the liquid crystal display device according to Claim 8, wherein the second insulating film is repellent to the columnar organic film.

25

12. The method for manufacturing a liquid crystal display device according to Claim 8, wherein the columnar organic film is removed by water washing.